**LEARNING GUIDE KEY**

**Objective A**

1. Production is the creation of goods and services from economic resources. It combines human, natural, and capital resources to produce such varied products as clothing, restaurant meals, agricultural products, home appliances, college graduates, farm equipment, and haircuts. The resources used are called the factors of production. For production to occur, all businesses need inputs, or resources; a process for converting the inputs into products; and outputs, or products. (6 points)

2. Answers will describe the following components of production: (24 points; 8 points each)

a. The specific economic resources used in producing goods and services are called inputs. The basic categories of inputs are human resources, natural resources, and capital or capital goods. In other words, the business must have workers, materials from which to make products, the necessary production equipment, and the money to pay for it all.

b. Inputs turn into products during the conversion process. Some conversion processes rely heavily on the special skills of workers. Because of this, these conversion processes are known as labor-intensive. Other conversion processes depend more on the use of equipment than human resources. These are known as capital-intensive conversion   
processes.

c. The goods and services produced as the result of combining inputs are called outputs. Outputs may be tangible products such as computers or jewelry. Or, they may be intangible products such as education or health care. Outputs are categorized as industrial goods if they are sold to producers who use them to make other products or in their businesses. They are categorized as consumer goods if they are sold to ultimate   
consumers.

3. A key benefit of production is that it gives resources form utility—usefulness created by altering or changing the form, shape or look of a good to make it more useful or attractive to end users. Production gives crude oil form utility by refining it into gasoline and oil that consumers can use in their vehicles. Otherwise, the crude oil would be of little use to most consumers. (6 points)

4. Production is important because it creates form utility. Without production, businesses would not have anything to sell in order to stay in business. And, when production is most efficient, businesses turn out the maximum number of products at the lowest cost. This enables businesses to be competitive. If the business’s costs of production are higher than its competitors’ costs, it will have to set its prices higher than competitors’ prices. This is likely to reduce sales. (6 points)

**LEARNING GUIDE KEY** (cont’d)

**OBJECTIVE B**

5. Production planning determines *how* products will be produced and in *what amounts*. The two decisions made in product planning are: (10 points; 5 points each)

*• Determining how products will be produced*. This activity involves determining the   
specific needs for equipment, time, and human resources.

*• Determining how much of the product to produce*. This activity is important because a business should try to produce only as much as it can sell. If a business does not produce enough to meet customer demand, it will lose sales to competitors. But, if it produces too much, it will lose money on unsold products. Some businesses try to obtain advance orders from customers to help with planning production quantities. Others try to   
estimate the amounts they can sell.

6. Buying the resources needed for production is called purchasing. This is the production activity that assembles all the inputs needed for production to take place. These resources may include raw materials, parts, equipment, supplies, machinery, and labor. (6 points)

7. The production process is the way in which production will be carried out. A business must choose the production process that is most appropriate for its product(s). The two kinds of production processes that are generally used are intermittent and continuous. An intermittent production process is one in which production periodically stops and then restarts. A continuous production process, on the other hand, turns out products without stopping. It is used in the production of standard products with steady demand. (6 points)

8. Unit production means producing one item at a time or items in small quantities. Batch   
production means producing items in specific amounts, or batches. It is often used to meet specific or short-term market needs. Mass production means producing products in large quantities. (6 points)

9. To produce large quantities efficiently, mass production uses such production techniques as: (6 points; 2 points each)

• Assembly lines, in which the product moves past workers, each one of whom performs   
an assigned production task

• Robotics, in which robots carry out the repetitive tasks that workers would find   
monotonous and tiring

• Automation, in which tasks are completed by automatic means, such as technology,   
reducing human effort and labor

10. Routing is the production activity that determines the sequence for the steps in the production process. It establishes the paths that inputs take from the time they are received by the business through the conversion process until they become outputs. (6 points)

**LEARNING GUIDE KEY** (cont’d)

11. Scheduling establishes the timetable to be followed in production. Employees responsible for scheduling look at the number of steps in the production process and estimate how long each step will take. They then set the times for each step to begin and end and schedule delivery of the resources that will be needed in the production process. Scheduling helps a business to meet customers’ needs without wasting time or resources. Scheduling can be a very complicated process, so many businesses rely on special software programs to help with scheduling. (6 points)

12. Dispatchingis issuing orders for production to start. Dispatches are usually written orders that tell employees what their job assignments are, when to move materials from storage to the work area, or which tools and equipment to assemble. (6 points)

13. Follow-up is the last production activity which makes sure production was carried out according to plan and that products meet company standards. To be competitive in a global market, many companies must also meet the standards set by outside groups or agencies, such as the International Organization for Standardization (ISO), which sets international quality-control standards. During the follow-up, managers review production schedules to make sure deadlines were met and products were ready when customers wanted them. The quality of most products is inspected during their production. Managers review the results of these inspections to see if there are problems in the production process. (6 points)

**Suggested** Criterion Level: 80 points